



A LEADER IN SOLAR ENERGY

INVITATION TO BOSCH ENERGY STORAGE TRAINING

From thought to reality – grid connected, stand-alone & hybrid solar installations.



Solarmatrix

A Leader in Solar Energy

AT A GLANCE

WHO: Solar Matrix

WHAT: Solarmatrix is a passionate and innovative solar power company specializing in the engineering of commercial large scale solar energy systems and in the wholesale of high quality photovoltaic components.

WHERE: Western Australia 6155

WEBSITE: www.solarmatrix.com.au

Founded in 2007, Solar Matrix is a company specialising in the design and installation of commercial large-scale solar energy systems. In its eight years of operation, it has successfully completed a wide range of solar energy systems for government, education, health, retail, and industrial clients, signalling and commencing a new era for large businesses and



Solarmatrix has also been involved in sophisticated hybrid power projects for Aboriginal communities, pastoral farms and eco resorts. In fact, soon after the company started operations, the government introduced subsidies for solar projects. Consequently, in 2008 and 2009 Solarmatrix saw a sharp increase in the volume of business.

This Perth-based company has established itself as the supplier of choice for commercial solar projects. Durmus Yildiz, Managing Director, recounts an assignment Solarmatrix completed soon after it started operations, “One of the first projects was to design a system for an aboriginal community as more electricity was required by them in connection with their proposal to establish a school with the government’s help.

Solarmatrix is a leader in the engineering of large scale solar energy projects. In years of existence, the company has completed a number of projects for railway communication plants, government bodies.

“In order to get the school approved, the government needed more information about the power status in the immediate area and whether there was enough electricity to meet the additional requirement. Our project was more of a support for the community to help them out. We executed the project successfully and subsequently carried out a number of other assignments in remote and off-grid areas.”



Capabilities in remote areas

Solarmatrix has a high level of expertise in completing assignments in difficult-to-access locations. Often, utilities do not necessarily want solar power installations because of its intermittent output in case of cloud events. To overcome this drawback, the company offers a solution where the system it installs provides some power for a limited time when sunlight is not available.

For this purpose, Solarmatrix has teamed up with another company, which provides the hardware, while the software is available in-house. This capability has given Solarmatrix the ability to penetrate much larger markets around the world where its technical expertise is required to cater to isolated grids. Some of the projects executed in remote areas are:

12 kW off-grid hybrid remote area power supply (RAPS) system

The assignment involved engineering and supplying a 12 kWp off-grid solar power system for a customer in a remote area around Broome, WA. The project was installed and commissioned through the company's partner, Wallis

Electrical. Its unique features include a cyclone rated installation maximising the available roof space.

The installation is a combination of a photovoltaic system and a diesel generator. Forty-nine Bosch Solar Energy solar modules were used along with two SMA Sunny Island inverters and 24 Sonnenschein sealed gel batteries.

16 kW Lancelin off-grid system

The project included design, supply and commissioning of a 16 kWp hybrid solar power system for the Lancelin Defence Facility. Independent Power Systems was the partner for installation. The project met the exacting requirements of the Australian Department of Defence and its objective was to reduce diesel fuel usage and improve reliability of power supply.

Utilisation of world-class components

Solarmatrix uses components supplied by the world's leaders in solar products and has ongoing relationships with Bosch Solar, SolarWorld, LG Solar, Lorentz, SMA Solar Technology AG, Radiant Mounting Systems, HT



Instruments and Huber & Suhner (Radox).

Durmus Yildiz says, “We mainly work with German companies in our area. We have hardly any supplier in Australia or anywhere else. We work with Bosch which is a big name in the solar world on the module side. We also work with SMA on inverters. Germany is one of the more advanced, if not the most advanced country when it comes to adopting renewable energy and also developing products and having a high standard in the quality of their product.”

Products supplied by Bosch Solar Energy Australia are acknowledged for their durability and strength. Bosch rooftop PV modules and Bosch

mounting systems meet government testing processes simulating severe cyclonic conditions and which create a ‘cyclic’ low/high /low pressure on the PV array over 10,360 times.

This testing process ensures that the system is capable of withstanding the extreme pressure a cyclone creates to draw a PV module off the roof, creating a deadly flying object.

Kandiwal Solar Project

This project established the company’s reputation for installing standalone solar power systems (RAPS) in the most inaccessible and difficult terrain. Staff were required to undertake a 6,400 kilometre round trip journey through Western Australia to install a 38kW



system in the Kandiwal Aboriginal Community, deep in the heart of the Kimberley.

Prior to installation of the solar power system, the 40-member community was dependent upon a diesel generator for its electricity needs. This resulted in pollution in the area and in addition, entailed high running costs. Frequent maintenance was also required. Although the community had a solar power system, which had been installed in 2006, its capacity was too small to meet the community's growing needs.

The Solarmatrix team installed 152 solar panels and a cyclone-rated mounting frame in addition to constructing a dedicated shed to

house 144 batteries. The resultant solar energy generated will meet the complete needs of the community and the diesel generator will serve as a backup source of power.

The project utilised 250 W solar panels manufactured by SolarWorld and SMA Sunny Island inverters and Sunny Tripower inverters in addition to batteries made by Sonnenschein.

Other Projects

Describing the range of work undertaken by Solarmatrix, Durmus Yildiz says, "We are working with a client on a job near Uluru, which is a resort where we are providing some components to a 1.6 MW installation. It is probably one of the largest projects

dedicated to a single customer.

“We are also working with the government to assess the requirement of a number of aboriginal communities. Depending on the outcome we will supply systems to make them 100% self-sufficient with renewable energy.

“Another assignment we have taken up involves a system for a water supplier to move away from a 24-hour diesel generator and use solar energy. This is located in a remote location.”

One of the other prestigious projects completed by Solarmatrix is the 100 kW MTA Adelaide Solar System where the company engineered and supplied a 100kWp solar power system for the Motor Trade Association (MTA) in South Australia through its partner, Solar SA.

This project serves to power the entire Training Centre of the MTA with clean solar energy and minimises electricity costs as well as environmental impact. The installation utilises solar modules supplied by SolarWorld and SMA inverters.

Services

In addition to being a leader in the design, supply and commissioning of solar installations, Solarmatrix offers a

range of services to its clients. These include onsite support and compliance checks with Australian standards and the technical rules set by utilities. Monitoring services for electricity consumption are also offered.

Clients are provided the means to check the performance of their solar energy plant using remote monitoring capabilities through the internet or mobile phone. This facility allows customers to monitor whether the system is operating at its designed capacity.

Solarmatrix also conducts energy audits for large scale commercial customers who want to understand the details of their energy consumption. The company offers a proposal-writing facility for their customers to allow them to access the grants that may be announced by the government in areas related to solar energy.

Grid Connected Solar Power

Solarmatrix can install a grid connected solar power system at the client's location. This is an independent source of power supply and the excess electricity produced can be sold to the utility company. The client also has the option of selling the entire electricity generated.

The customer is also given the option of surrendering rights to the Renewable Energy Certificates that will be generated when solar energy is produced. This will result in a lowered acquisition cost for the solar energy installation.

The solar energy system provided by Solarmatrix works automatically and will switch itself on in the morning and shut down at sunset. It will result in greatly reduced utility bills for clients. Installations like these will also result in reduction of greenhouse gases in the atmosphere and help preserve the environment.

Single-point source for all solar energy needs

Solarmatrix has the unique advantage of being a one-stop source for all possible requirements connected with a client's solar energy related needs. The company supplies everything from panels to batteries and inverters and even connectors and cables. Solarmatrix is also a supplier for electric bikes and conversion kits.

The engineering division of the company has high-end technical capabilities and its execution skills have been tested in the most inhospitable terrains. Over the years

it has completed a wide variety of projects and these are testament to its expertise in a range of solar-energy related areas.

With the increasing focus on preserving the environment and the need to mitigate the effects of global warming, the scope for solar energy will continue to increase in Australia. Solarmatrix is ideally positioned to take advantage of this and its experience in the entire range of solar energy related areas will ensure that it continues to grow and thrive.

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